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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/644,031	08/22/2000	James P. Cusey	20661-00818	1287

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Roger L. Maxwell
Jenkins & Gilchrist P C
1445 Ross Avenue
Suite 3200
Dallas, TX 75202-2799

EXAMINER

LANIER, BENJAMIN E

ART UNIT	PAPER NUMBER
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2132

DATE MAILED: 03/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/644,031

Applicant(s)

CUSEY ET AL.

Examiner

Benjamin E Lanier

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19,23,24,27-29 and 35-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 24 and 27-29 is/are allowed.
- 6) ☒ Claim(s) 19,35-38,41-54 and 56-58 is/are rejected.
- 7) ☒ Claim(s) 23, 39,40,53 and 55 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment filed 05 January 2005 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the roaming security device having a means for optionally generating a random number.

Applicant is required to cancel the new matter in the reply to this Office Action.

Response to Arguments

2. Applicant's arguments filed 05 January 2004, with respect to claims 19, 23, 24, 27-29 have been fully considered and are persuasive. The rejections have been withdrawn.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 19 is rejected under 35 U.S.C. 112, first paragraph, because the best mode contemplated by the inventor has not been disclosed. Evidence of concealment of the best mode is based upon The added material which is not supported by the original disclosure is as follows: the roaming security device having a means for optionally generating a random number.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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6. Claims 35, 38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. The term "substantially" in claims 35, 38 is a relative term which renders the claim indefinite. The term "substantially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 36, 42-47, 49-50 are rejected under 35 U.S.C. 102(b) as being anticipated by Moseley, U.S. Patent No. 5,193,114. Referring to claims 35, 45-47, 49, Moseley discloses a smart card authentication system wherein a smart card is enabled for a user to securely access separate accounts in the form of multiple cash accounts and credit card accounts (Abstract, Col. 3, lines 29-35), which meets the limitation of a host security circuit, the roaming security device as part of a subsystem device and wherein the roaming security device can be authenticated to thereby enable the host device and determine whether said subsystem device is the proper type, a communication circuit for communicating with said host security circuit, a battery for at least partially powering said roaming security device. The smart card contains several secret constants stored in the card that are used in a secret function, which meets the limitation of one locally

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stored secret and a memory component storing at least one secret, performing non-reversible computations, along with a random number (Abstract), which meets the limitation of a challenge, that includes a seed key for the different service providers (Col. 8, 53-57), which meets the limitation of a third memory portion configured to store a service provider data item, and a card serial number ID (Col. 5, lines 1-3), which meets the limitation of a first memory portion configured to store a device ID. The limitation of the subsystem device being removably attached to said host system device and said host system being substantially inoperable without being attached to said subsystem device is met by the fact that device and reader of Moseley would be substantially inoperable without the smart card.

Referring to claim 42, Moseley discloses that the authentication takes place a number of times (Col. 9, line 62 – Col. 10, line 2), which meets the limitation of host security circuit periodically checks the authenticity of said roaming security device.

Referring to claim 43, Moseley discloses communicating encrypted data (Abstract).

Referring to claim 44, Moseley discloses that the smart card system contains physical security means for protecting the information contained in the smart card memory (Col. 3, lines 45-54), which meets the limitation of physically access the circuitry of the roaming security device results in the destruction of data stored in said roaming security device.

Referring to claim 50, if the smart card is not authenticated for use with the system then the system is disabled until a smart card that can be authenticated is used.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. Claims 36-38, 51, 52, 54, 57, 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moseley, U.S. Patent No. 5,193,114, in view of Pieterse, U.S. Patent No. 5,907,832. Referring to claims 36-38, 51, 57, 58, Moseley discloses a smart card authentication system wherein a smart card is enabled for a user to securely access separate accounts in the form of multiple cash accounts and credit card accounts (Abstract, Col. 3, lines 29-35), which meets the limitation of a host security circuit, the roaming security device as part of a subsystem device and wherein the roaming security device can be authenticated to thereby enable the host device, a communication circuit for communicating with said host security circuit. The smart card contains several secret constants stored in the card that are used in a secret function, which meets the limitation of one locally stored secret and a memory component storing at least one secret, performing non-reversible computations, along with a random number (Abstract), which meets the limitation of a challenge, that includes a seed key for the different service providers (Col. 8, 53-57), which meets the limitation of a third memory portion configured to store a service provider data item, and a card serial number ID (Col. 5, lines 1-3), which meets the

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limitation of a first memory portion configured to store a device ID. Moseley does not disclose using a challenge/response authentication system. Pieterse discloses an electronic debiting system wherein an authenticating hash is created using: a random number, which meets the limitation of a challenge; an account balance, which meets the limitation of a device secret; a key and a clock pulse (Col. 5, lines 47-60), which meets the limitation of a counter value and performing a nonreversible computation using the stored device ID, the stored device secret, the stored service provider data item, a challenge, and a counter value as seeds. The generated authenticating hash is transferred to the terminal where a second authenticating hash is calculated and then the hashes are compared for authenticity (Col. 4, lines 54-67), which meets the limitation of outputting to the host the first nonreversible computation result, generating a second nonreversible computation result, and comparing the first and second nonreversible computation result to authenticate the roaming device. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a challenge/response authentication system in Moseley in order to provide a method of authenticating the entire transaction process as taught in Pieterse (Col. 3, lines 10-45).

Referring to claim 52, if the smart card is not authenticated for use with the system then the system is disabled until a smart card that can be authenticated is used.

Referring to claim 54, Moseley discloses that the smart card can be an ATM or bank card (Abstract), which can be considered consumable because the card is associated with funds that are consumable.

13. Claims 48, 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moseley, U.S. Patent No. 5,193,114, in view of Schneier. Referring to claims 48, 56, Moseley does not

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disclose that the non-reversible device algorithm is a SHA hash function. Schneier discloses using SHA hash algorithms as a one-way hash function in cryptographic procedures (pgs. 442-445). It would have been obvious to one of ordinary skill in the art at the time the invention was made for the non-reversible device algorithm of Moseley to be a SHA function because Schneier discloses (page 442) that the SHA function is a standard hashing function.

Allowable Subject Matter

14. Claims 24, 27-29 are allowed.

As allowable subject matter has been indicated with respect to claim 19, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

15. Claims 39, 40, 53, 55 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16. The following is a statement of reasons for the indication of allowable subject matter: The prior art does not disclose a method of authenticated a printer cartridge at a printer wherein the printer sends the printer cartridge a challenge that the printer cartridge uses to compute a computation result, using a non-reversible algorithm, that is sent back to the printer. After receiving this computation result, the printer calculates a similar computation result using a different non-reversible algorithm and the same challenge and compares the two computation results. If the computations match, then the printer is allowed to function with the printer cartridge.

Conclusion

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17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Walker, U.S. Patent No. 6,494,562

Bullock, U.S. Patent No. 5,812,156

Helterline, U.S. Patent No. 6,039,430

Haines, U.S. Patent No. 6,738,903

McLaughlin, Laurianne, "After ElcomSoft: DMCA Still Worries Developers, Researchers", Published by the IEEE Computer Society, March/April 2003, Pages 86-89.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin E Lanier whose telephone number is 571-272-3805.

The examiner can normally be reached on M-Th 7:30am-5:00pm, F 7:30am-4pm.

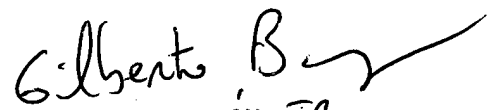
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on 571-272-3799. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Benjamin E. Lanier



GILBERTO BARRON JR.
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100